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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

November 30, 1993

Evan R. Kwerel  
FCC / Office of Plans and Policy  
1919 M Street, NW; Room 822  
Washington DC 20554

Dear Evan:

George Wheeler passed along to me your very natural question: How could I write an entire draft this past summer advising that simultaneous ascending-bid auctions be considered, and then pick holes in the filed comments proposing the use of such auctions?

My primary goal in the summer paper was to add a bit to your 1985 paper with Felker, "Using Auctions to Select FCC Licenses." I viewed that paper as the standard around which discussions of alternative auction procedures would focus (not just for PCS licensing, but for future FCC needs as well), and felt it appropriate to bring one additional procedure "into play."

Attached is a single page of text, containing material pulled verbatim from the "implementation" and "conclusion" sections of the summer paper. You'll note that I stopped far short of advocating large-scale simultaneous ascending-bid auctions. (Indeed, the "implementation" comments actually present many of the arguments supporting sequential sales at the MTA level.) In addition, at the time the summer paper was written I did not know that some of the offered licenses (for BTAs) would cover strict geographic subsets of the territories covered by other licenses (for MTAs).

Also attached are the final two pages of the reply comments which George will be submitting later today. They constitute my reply to the draft replies which Barry and Preston sent to me. And I suspect that they will make our filing unique: No-one else will suggest starting with Guam!

Best regards,

Bob Weber

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From the summer paper:

**Implementation issues ...**

3. **Regional sales/national sales:** Selling all of the areas in a single geographic region before beginning a new auction covering another region could provide several benefits: Logistic problems in managing the bidding process would be simplified. The first such sale would provide a valuable learning experience, which would in turn facilitate the fine-tuning of the auction procedures prior to the sale of licenses in other regions. Information revealed to the market by the results of the first regional sale would help bidders to refine their acquisition and bidding strategies in subsequent sales (and in theory would, *ex ante*, increase expected revenues in later rounds by lessening the broad impact of the "Winner's Curse" [see Appendix]). And still, since most economies of scale accrue on a region-by-region basis, the expected efficiency of the allocation of licenses would not be substantially decreased.

Indeed, if the auctions are to be conducted in regional stages, it would be desirable to begin with a sale of licenses covering the largest metropolitan areas first (e.g., for the initial stage to sell, using a simultaneous ascending-bid auction, all available channel-block licenses in the largest five or six MSA's). This would establish a broad competitive context within which firms could develop their subsequent acquisition strategies.

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**Conclusion**

Until a final decision is made concerning the structure of the set of PCS licenses to be offered (e.g., what regions and bandwidths will be covered by individual licenses), it is impossible to make sharp recommendations concerning the choice of auction methodology. Our purpose in this paper is merely to bring one particular type of methodology — the use of simultaneous ascending-bid auctions — into the realm of discussion. As details of the configuration of licenses to be offered become clearer, it will be possible to compare alternative allocation approaches with a sharper focus.



## 10. Appendix II: Reply to replies

Due to the postponement of the filing deadline, I've had the opportunity to read through drafts of the reply comments written by Barry Nalebuff and Jeremy Bulow for Bell Atlantic and by Preston McAfee for PacTel (and I've sent a draft of my reply comments to them). Since the common goal is to provide as much information as possible to the FCC before the final choice of auction methodology must be made, it seems desirable to include here a few replies-to-replies; in order not to abuse the sharing of replies, I've chosen to segregate all replies-to-replies in this appendix, rather than to revise my primary (circulated) reply.

### **The sequencing of auctions of pairs of 30 MHz MTA licenses on the first few days**

A very specific proposal concerning the first four days of sales would be to offer the licenses covering Guam and American Samoa on day 1, followed by those covering Hawaii and New York on day 2, Puerto Rico and Los Angeles on day 3, and Alaska and Chicago on day 4. The pace of the auctions (i.e., the number of MTAs for which licenses will be sold) could be increased on subsequent days, as 30 MHz licenses are offered for the other MTAs in descending order of population coverage.

This would allow a bit more time for bidders to become familiar with the auction rules, and to assimilate information revealed from the first few sales. The licenses on the MTAs outside of the contiguous 48 states are natural ones to begin with, since regional hubbing is not an issue. (This idea arose during discussions with Barry Nalebuff.)

### **The advantage (offered by sequential sales) of predictable "closing" order**

The most valuable information that can be provided to bidders, in order to enhance the efficiency of the final allocation of licenses by facilitating the early refinement of acquisition strategies, concerns the prices and identities of winning bidders for the 30 MHz licenses covering the largest MTAs. None of the proposed simultaneous-auction procedures can guarantee that this information will be available to bidders before they must commit themselves to the submission of potentially-winning bids on all other licenses; hence, the final results of simultaneous sales are likely to be much less efficient (and therefore are likely to generate lower auction prices and to require more after-auction adjustment) than the final results of sequential auctions.

### **The "robustness" advantage**

This past summer, I circulated a paper which discussed simultaneous ascending-bid auctions in some detail. Even at that time (i.e., before the notice of proposed rule making was released), the suggested use of such auctions was restricted to the sale of modest numbers of licenses covering regions consisting of a small number of contiguous areas (with the regions sequenced in descending order according to population coverage). The primary reason for the restriction was that I couldn't see any way to resolve problems involving coordination of bids across regions, non-informative closing orders, informational overload, and the like. After reading the filed comments proposing large-scale simultaneous ascending-bid auctions, I still see no solution to these problems.

Certainly, such large-scale simultaneous auctions have never been held before. Problems (in bid transmission and processing, or bid withdrawals, or bidder exclusion due to a filing-of-bids failure in a single day, or informational feedback to bidders, or other situations difficult to anticipate in advance) could lead to a catastrophic collapse in the bidding process after weeks of bidding activity. The FCC

cannot afford to risk such a collapse, when simple (and much more robust) sequential procedures are available and are likely to yield outcomes at least as efficient as simultaneous procedures could.

Of course, the use of simultaneous auctions to sell pairs of 30 MHz MTA licenses involves little risk, since no bidder will be permitted to be active in more than one of the auctions at any instant.

The proposed use of simultaneous auctions for the sale of BTA licenses within a single MTA also involves little risk (a single "collapse" would cost less than a day, and would affect only a limited market, and could hence be viewed more as a "learning experience" than as an unmitigated disaster). This proposal is, of course, a compromise, intended to speed the auction process after the 30 MHz license auctions have brought substantial information into the public domain.

### **Bid withdrawal**

Any time capital constraints and/or geographic synergies are present, simultaneous sales across MTAs or BTAs will potentially confront bidders with the desire to withdraw bids. But the logistical and strategic problems present in bid withdrawal are substantial. In the original TDS comments, it was proposed to allow bid withdrawals only in the simplest possible setting — when combinatorial bidding across spectrum is allowed during the sale of small numbers of BTA licenses. However, if withdrawals are definitely not to be a part of the finally-adopted procedure, then it is simple to eliminate combinatorial bidding across spectrum from the original TDS proposal, and use simultaneous ascending-bid auctions (as presented in both the TDS and the Pacific Bell/Nevada Bell comments) for small groups of BTA licenses.

"Small" groups is intended here to mean no more than 20 or 30 licenses at a time. Each sale could involve either the offering of block-C and block-D licenses, or blocks-E-through-G licenses, on about 10 BTAs (say, all the BTAs within a single MTA), or the block-C-through-G licenses on about 5 BTAs. (While I have reasoned previously that licenses on blocks C and D should not be offered *after* licenses on blocks E through G, that reasoning does not preclude simultaneous offerings.) A critical tradeoff is between the desire to complete the sale of all licenses expeditiously, and the desire to avoid exposing the bidders to overwhelmingly-complex strategic considerations. By focusing any one offering on BTAs in the same area, it will be feasible to conduct the simultaneous ascending-bid auctions in "real" time; two sales per day for approximately 50 days (covering a total of roughly 2500 licenses) seems manageable.

### **Miscellany**

While the PacTel (McAfee) reply in general is quite complimentary of the original TDS comments, one misstatement must be pointed out: The PacTel discussion of the proposed timing of the sequential sale of MTA licenses inaccurately mixes together separate aspects of the TDS proposals for MTA-level and BTA-level auctions.

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